

# Do We Have to Use the Power-law to Study War Size?

## And Does it Matter?\*

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### Abstract

Do we have to use the power-law model to study war size? Using the Correlates of War interstate conflict series, this study directly compares the classic power-law model to log-normal and inverse Burr models using best-practices underutilized in the peace science literature for power-law model fitting and validation. Three alternative measures of war size are considered: (1) *severity*, (2) *prevalence*, and (3) *intensity*. The results show that researchers have more freedom of choice than previously thought. Any one of the three models investigated can be justified, which opens a world of analysis options (such as multiple regression) that some consider off-limits for studying the sizes of conflicts. However, this freedom of choice is not free of consequence. Practical steps that researchers can take to exercise caution and transparency in data and methods are recommended.

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\*Replication files are available on the author's Github account (<http://github.com/milesdwilliams15>). **Current version:** December 05, 2023; **Corresponding author:** [williamsmd@denison.edu](mailto:williamsmd@denison.edu). Thanks are owed to anonymous reviewers and the late Bear F. Braumoeller for comments on previous drafts of this paper.

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